WHAT IS CLAIMED IS:

1. A method for reducing stiction in a MEMS device having a moveable element moveably coupled to a substrate, the method comprising:
   a) providing the substrate with an anti-stiction member; and
   b) interposing the anti-stiction member between the moveable element and the substrate.

2. The method of claim 1 wherein step b) includes actuating the moveable element to interpose the anti-stiction member between the moveable element and the substrate.

3. The method of claim 2 wherein step b) includes substantially immersing the moveable element in a liquid during actuation of the moveable element.

4. The method of claim 1, wherein step a) includes providing an anti-stiction member that overhangs the moveable element.

5. The method of claim 4, wherein the anti-stiction member includes one or more flexible portions.

6. The method of claim 5, wherein the one or more flexible portions includes at least one double-serpentine portion.

7. The method of claim 4 wherein the anti-stiction member is made of a flexible material.

8. The method of claim 4 wherein step b) includes actuating the moveable element whereby the moveable element engages the anti-stiction member causing the anti-stiction member to flex.

9. The method of claim 8 wherein step b) includes flexing the anti-stiction member sufficiently to interpose the anti-stiction member between the moveable element and the substrate

10. The method of claim 1 wherein step a) includes:

providing a silicon-on-insulator (SOI) substrate;
defining the moveable element from a device layer of the SOI substrate; and
depositing a flexible material over the device layer and the moveable element such that the flexible material overhangs the moveable element.

11. The method of claim 1 further comprising: minimizing an area of contact between the anti-stiction member and the moveable element. .

12. The method of claim 1 further comprising electrically isolating the moveable element from a portion of the substrate.

13. The method of claim 12 wherein the isolating step includes interposing an insulating material between the anti-stiction member and an electrically conductive portion of the moveable element.

14. The method of claim 12 wherein the isolating step includes interposing an insulating material between the anti-stiction member and the portion of the substrate.

15. An apparatus for reducing stiction in a MEMS device having a moveable element moveably coupled to a substrate, the apparatus comprising:
an anti-stiction member that is interposable between the moveable element and the substrate.

16. The apparatus of claim 15 wherein the anti-stiction member is attached to the substrate.

17. The apparatus of claim 16 wherein the anti-stiction member is not attached to the moveable element.

18. The apparatus of claim 15 wherein the anti-stiction member is cantilevered such that the anti-stiction member overhangs the moveable element.

19. The apparatus of claim 15 wherein the anti-stiction member is made from a flexible material.

20. The apparatus of claim 15 wherein the anti-stiction member includes one or more flexible portions disposed between a fixed end and a free end.

21. The apparatus of claim 20 wherein the one or more flexible portions include at least one serpentine portion.

22. The apparatus of claim 20 wherein the one or more flexible portions include at least one double serpentine portion.

23. The apparatus of claim 15 further comprising a standoff attached to a free end of the anti-stiction member.

24. The apparatus of claim 15, further comprising means for electrically isolating the moveable element from a portion of the substrate.

25. The apparatus of claim 24, wherein the means for electrically isolating includes an electrically insulating standoff attached to a free end of the anti-stiction member.

26. The apparatus of claim 24, wherein the means for electrically isolating includes an electrically insulating portion of the moveable element.

27. The apparatus of claim 15, wherein the anti-stiction member includes a serpentine shaped portion that is disposed between a free end and a fixed end of the anti-stiction member.

28. The apparatus of claim 15, wherein the anti-stiction member includes one or more double-serpentine shaped portions that are disposed between a free end and a fixed end of the anti-stiction member.

29. A MEMS device, comprising:
a substrate;
a moveable element moveably coupled to the substrate, and
an anti-stiction member that is interposable between the moveable element and the substrate.

30. The MEMS device of claim 28 wherein the anti-stiction member is attached to the substrate.

31. The MEMS device of claim 30 wherein the anti-stiction member is not attached to the moveable element.

32. The MEMS device of claim 28 wherein the anti-stiction member is cantilevered such that the anti-stiction member overhangs the moveable element.

33. The MEMS device of claim 29 wherein the anti-stiction member is made from a flexible material.

34. The MEMS device of claim 29 wherein the anti-stiction member includes one or more flexible portions disposed between a fixed end and a free end of the anti-stiction member.

35. The MEMS device of claim 29, wherein the one or more flexible portions include a serpentine portion.

36. The MEMS device of claim 29, wherein the one or more flexible portions include at least one double-serpentine portion.

37. The MEMS device of claim 29 further comprising a standoff attached to a free end of the anti-stiction member.

38. The MEMS device of claim 29 further comprising means for electrically isolating the moveable element from a portion of the substrate.

39. The MEMS device of claim 38, wherein the means for electrically isolating includes an electrically insulating standoff attached to a free end of the anti-stiction member.

40. The MEMS device of claim 39, wherein the means for electrically isolating includes an electrically insulating portion of the moveable element.

41. The MEMS device of claim 29 wherein the moveable element includes a light-deflecting component.

42. The MEMS device of claim 41, wherein the light-deflecting component is plane reflecting (or partially reflecting) surface, curved reflecting (or partially

reflecting) surface, prismatic reflector, refractive element, prism, lens, diffractive element, grating, fresnel lens, dichroic coated surface, waveguide or some combination of these.

43. The MEMS device of claim 41 wherein the light-deflecting component is a mirror.

44. The MEMS device of claim 29, wherein the moveable element is configured to rotate.

45. The MEMS device of claim 29, wherein the moveable element is configured to translate.

46. A method for fabricating a MEMS device, comprising:
providing a silicon-on-insulator (SOI) substrate;
defining a moveable element from a device layer of the SOI substrate; and
depositing a flexible material over the device layer and the moveable element such that one or more portions of the flexible material overhang the moveable element,
wherein the flexible material is deposited such that the anti-stiction member is attached to one end to a portion of the device layer,
wherein the flexible material is deposited such that the anti-stiction member is not attached to the moveable element;
whereby the flexible material forms one or more anti-stiction members.

47. The method of claim 46 wherein an insulating material is deposited between defining the moveable element and depositing the flexible material.

48. The method of claim 47, further comprising etching the insulating material to release the moveable element.

49. The method of claim 48, wherein the flexible material is resistant to an etchant that is used to remove the insulating material.

50. An optical switch, comprising:
a substrate;
one or more moveable elements moveably coupled to the substrate, and

an anti-stiction member that is interposable between at least one of the moveable elements and the substrate.

51. The optical switch of claim 50 wherein at least one of the moveable elements includes a light-deflecting component.

52. The optical switch of claim 51 wherein the light-deflecting component is a plane reflecting (or partially reflecting) surface, curved reflecting (or partially reflecting) surface, prismatic reflector, refractive element, prism, lens, diffractive element, grating, fresnel lens, dichroic coated surface, waveguide or some combination of these.

53. The optical switch of claim 51 wherein the light-deflecting component is a mirror.

54. The optical switch of claim 50 wherein the anti-stiction member is attached to the substrate.

55. The optical switch of claim 54 wherein the anti-stiction member is not attached to the moveable element.

56. The optical switch of claim 50 wherein the anti-stiction member is cantilevered such that the anti-stiction member overhangs the moveable element.

57. The optical switch of claim 50 wherein the anti-stiction member is made from a flexible material.

58. The optical switch of claim 50 wherein the anti-stiction member includes one or more flexible portions disposed between a fixed end and a free end of the anti-stiction member.

59. The optical switch of claim 58, wherein the flexible portion includes a serpentine portion.

60. The optical switch of claim 58, wherein the flexible portion includes at least one double serpentine portion.

The optical switch of claim 50 further comprising a standoff attached to a free end of the anti-stiction member.